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An experiment measuring the effectiveness of two procedures for presenting pattern drills was devised in order to show that pattern drills are most useful as a learning device if deliberately related to situational or meaningful content. Criteria for the selection of subjects are presented here, as are sample test items and a table of results. Techniques of the study are briefly evaluated. The authors emphasize the need to differentiate between skill (manipulative skills) and art (expressive use) in foreign language teaching, but do not recommend a separation of the two in actual classroom practice. (JH)

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PATTERN DRILL AND COMMUNICATIVE ACTIVITY: A PSYCHOLINGUISTIC EXPERIMENT

John W. Oller – Dean H. Obrecht

Dans le domaine de la linguistique appliquée on rencontre parfois l'idée que des exercices de structure purement méchaniques sans rapport avec une situation raisonnable seraient d'une grande utilité pour l'apprentissage d'une langue étrangère. Leur but est surtout de rendre le système grammatical de la langue en cause utilisable pour l'élève.

L'article suivant décrit une expérience qui teste la validité de cette thèse. Deux groupes d'étudiants sans connaissances d'espagnol subissent un enseignement d'espagnol à l'aide des mêmes exercises de structures espagnoles. Le groupe A, à part une seule traduction des phrases espagnoles, n'eut aucune aide pour leur interprétation. Le groupe B, au contraire, eut un appui constant pour la compréhension des phrases, à l'aide de traductions répétées, de contextes linguistiques, d'images, etc., de sorte que le sens et la fonction communicative des modèles leur furent constamment actualisés. Pendant des exercices d'imitation, de substitution, de réponse postérieurs, le groupe B s'est montré considérablement supérieur au groupe A. On en conclut que les exercices de structure dans les programmes d'enseignement de langues étrangères doivent être réalisés de façon à rendre l'élève suffisamment familiarisé avec le sens et la fonction communicative des phrases en question. On ne doit pas enseigner ni apprendre une langue étrangère séparée de ses contextes linguistiques qui, eux seuls, donnent à la langue le caractère d'un moyen de communication.

Auf dem Gebiete der Angewandten Sprachwissenschaft wird von einigen Linguisten die These vertreten, daß rein mechanische Strukturmusterübungen ohne Bezug auf sinnvolle Sprechsituationen von großem Nutzen zum Erlernen einer Fremdsprache sind. Sie sollen vor allem dazu dienen, dem Lernenden das grammatische System der betreffenden Sprache verfügbar zu machen.

Der nachfolgende Artikel beschreibt ein Experiment, daß die Gültigkeit dieser These prüft. Zwei Gruppen von Studenten, die bisher noch kein Spanisch konnten, werden mit denselben spanischen Strukturmusterübungen unterrichtet. Dabei enthält die Gruppe A außer einer einmaligen Übersetzung der spanischen Sätze keine weiteren Hilfen zu ihrem Verständnis. Die Gruppe B dagegen wird durch mehrmalige Übersetzungen, sprachliche Kontexte und Bildmaterial ständig an Bedeutung und Kommunikationsfunktion der betreffenden Sätze erinnert. Bei den durchgeführten Nachsprech-, Substitutions- und Antwortübungen hat sich die Gruppe B als bedeutend besser als die Gruppe A erwiesen. Strukturmusterübungen in Lehrprogrammen für den Fremdsprachenunterricht sollten daher so gestaltet sein, daß die Lernenden über Bedeutung und Kommunikationsfunktion der betreffenden Sätze ausreichend informiert werden. Das grammatische System einer Sprache sollte nicht getrennt von sinnvollen sprachlichen Kontexten, die Sprache als Kommunikationsmittel vorführen, gelehrt und gelernt werden.

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1. Introduction. The place of meaning—or the 'ideas' that accompany words – has been a subject of much uncertainty in linguistic circles for a good many years.[1]) It is not our purpose here to attempt to resolve this difficult problem. There can be little doubt, however, that the use of language in communication is inseparably linked with a flow of information which we shall refer to, somewhat arbitrarily, as meaning or content. In the area of foreign language (henceforth, FL) study the consideration of content becomes extremely important. It was the express purpose of the experiment reported here to show that language skills learned through pattern drill are made more readily available to the student for communicative purposes if those drills are deliberately related to meaningful communicative activity during the teaching/learning process.

Largely as a result of the linguists' wartime FL programs, the field of FL pedagogy has seen a great deal of change in the last three decades. One of the salient features of the new 'approach' is the 'pattern drill.' Nelson Brooks, who is one of the outstanding proponents of this technique, has stated that these drills "... make no pretense of being communication ... [but are] ... undertaken solely for the sake of practice in order that performance may become habitual and automatic."[2]) There is a tacit assumption in this remark that this type of non-communicative habit formation will prove of some value in achieving the objectives of a FL program. Such objectives are described by the NEA and MLA as follows: "[1] The student should understand the foreign language as it is spoken by native speakers in situations similar to his own experience ... [2] He should speak the foreign language in everyday situations with reasonable fluency and correctness, and with pronunciation acceptable to the native speaker of the language ... [3] He should read the foreign language easily and without conscious translation ... [4] He should be able to communicate in writing anything he can say ...[5] Mastery of the skills must be

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[1]) The experiment reported here was made possible by the wholehearted cooperation of the administrators and French teachers of Monroe High School in Rochester, New York. A special debt of gratitude is due to Mr. Paul Steese, Acting Principal; Mr. Edward Prior, 10th Grade Counselor; and Miss Jean Cappellino, Head of the Department of Foreign Languages. It is indeed inspiring for educators engaged in research to receive such enthusiastic assistance from educators engaged in teaching.

[2]) *Language and Language Learning: Theory and Practice,* 2nd ed. (New York, 1964), p. 146.

accompanied by familiarity with the culture the language represents ..." [3]) It is clear that all of these objectives, with the possible exception of the last, involve communicative activity, i.e., a flow of information from conscious human organism to conscious human organism through the medium of language. All require that the student become aware of the relationship between motor skills of the FL and situational or meaningful content. If the student is not made aware of this relationship in the practice of pattern drills, it seems reasonable to question whether the language of those drills will be readily available to him when appropriate situations arise.

In his book, *Language and Language Learning,* Brooks draws an analogy between 'pattern practice' and 'scales and arpeggios.' F. Rand Morton uses this and similar analogies to authoritatively express his opinion that there is a need for the separation of 'manipulative skill' from 'expressive use.' He states:

"When we have the necessary skill for using a typewriter we can use it for writing a book. But if we are to use it, the skill must come first. Similarly, when we have the skill of the mechanical manipulation of linguistic patterns we can use this skill to express all that we feel, all that we imagine."

"In conventional attitudes toward language teaching these two processes—manipulative skill and expressive use—have been lumped together, or at least confused. Skill and Art—which in essence is what both processes are respectively—have been assumed to be identical." [4])

It is indeed unfortunate that there is often a considerable time lag between the testing of a new theory and its application in practice. It is perhaps more unfortunate that statements such as the preceding ones by Brooks and Morton may be widely accepted without having ever been tested. The present experiment was designed to test the notion that manipulative skills can be taught most effectively without relating the drills to meaningful communicative activity. It is hypothesized that the practical value of pattern drills can be significantly enhanced by purposefully relating them to communicative activity.

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[3]) Working Committee III of the Northeast Conference on the Teaching of Foreign Languages (1960), pp. 17–19. The above statement by Brooks, and the present one by the NEA and MLA are quoted in a different light by Wilga Rivers in her especially useful book, *The Psychologist and the Foreign Language Teacher*, Chicago, 1964.

[4]) *The Language Lab as a Teaching Machine: Notes on the Mechanization of Language Learning*, (Ann Arbor, 1960), Mimeographed, pp. 7–8.

2. *Experiment.* In order to put the authors' contention to a test, an experiment was planned to measure the difference in effectiveness between two procedures of presenting the sentences of a given pattern drill. Under *Procedure A* the sentences of the pattern drill were presented to *Group A* in listening, repetitive and manipulative drills. Subjects in *Group A* were informed of meaning only once. By contrast, under *Procedure B* the subjects of *Group B* were constantly made aware of meaning and were led into communicative activity. The following is an abbreviated form of the taped lesson of *Procedure A:*

(i) This is a taped lesson in Spanish. It is a test of your ability to learn a set of Spanish sentences. You will be quizzed at the end of the lesson.

(a) First, listen. You will hear each Spanish sentence followed by its meaning in English:

(1) Aquí está la pluma. Here is the pen.
(2) Aquí está el gato. Here is the cat.
(3) Aquí está la camisa. Here is the shirt.
(4) Aquí está el lápiz. Here is the pencil.

(b) This time you will hear only Spanish. Just listen:

.....

(c) Again you will hear each Spanish sentence. This time they will be broken down into smaller parts. *Repeat* these parts in the pauses provided. Each complete sentence will be built up in this way:

(1) Aquí está la pluma. pluma–[Dashes indicate a pause long enough for the experimenter to repeat the preceding word or phrase twice subvocally before proceeding to the next item.] pluma–pluma–la–la–la–la pluma–la pluma–la pluma–la pluma–está–está–está–aquí–aquí–aquí–aquí está–aquí está–aquí está–aquí está la pluma–aquí está la pluma–aquí está la pluma–

(2) .....

(d) You will hear each Spanish sentence twice more. Repeat it both times:

.....

(e) This is a substitution drill. As before you will hear a Spanish sentence. Repeat it. Then you will be given an item to substitute in it. Make the substitution and give a complete sentence as your response. You will then hear the correct sentence. Repeat it:

(f) Again you will h ar each Spanish sentence twice. Repeat it both times:

.....

(g) [Repetition of substitution drill (e)]

.....

(h) [Repetition of (e) with items in mixed order]

.....

(t) Now you will be tested. A situation will be described in English which requires that you respond in Spanish. Respond as quickly and as accurately as you can:

(1) You have a room-mate, Juan, who does not speak or understand English. He is looking for the shirt he wore the night before. He asks in Spanish, "Where is the shirt?" The shirt is on a chair next to you. You respond–[Dashes indicate a pause of ten seconds during which the subject's response was tape-recorded.]

(2) .....

Under *Procedure B*, in addition to the types of activity of *Procedure A*, subjects were deliberately made aware of meaning and were given two types of communicative activity–question/answer and directed dialog. The subjects of *Group B* were also given a set of freehand drawings representing the objects referred to in the Spanish sentences. *Note that both groups heard and said the same Spanish sentences the same number of times.* The following is a sketch of the form of *Procedure B*. Where it is identical with *A* description is omitted:

(ii) [as in (i) of *Procedure A*]

(a) [Meaning in English is presented *before* each Spanish sentence in order to make the student aware of the communicative import before he hears the Spanish sentence. The student is also instructed to follow the pictures.]

.....

(b) This time you will hear the Spanish first. Try to recall the meaning in the pause. Then you will be reminded of the meaning in English. Listen and follow the pictures:

.....

(c) [as in *A*]

.....

(d) [as in *A*, with the following addition] Refer to the pictures and focus your attention on meaning:

(e) [as in *a*]

.....

(f) This time you will be asked a question in Spanish. You will respond in Spanish. For example, you will be asked, "¿Dónde está la pluma?", which means, "Where is the pen?" You will respond: Aquí está la pluma." Then you will hear the correct answer. Repeat it. Follow the pictures and focus your attention on meaning:

.....

(g) Now you will hear a directive sentence in English. Respond in Spanish. For example, you will hear, Tell me where the pen is." You will respond, Aquí está la pluma." You will then hear the correct response. Repeat it:

.....

(h) [same as (g) of *A* with sentences in random order]

.....

(t) [as in *A*]

.....

2.1 Subjects. Twenty high school students were selected according to scores on the Verbal Reasoning section of the Differential Aptitude Tests (DAT).[5]) Only those students who scored B or better were chosen. Students enrolled in a FL course of study (first year French) were selected in order to eliminate, as much as possible, motivational variables, e.g., an aversion to FL study. They were divided into two groups of ten equalized according to grade level, scores on the DAT verbal, and sex.

2.2 Results. The test questions under both procedures of presentation, and the responses of each subject were recorded in the test portion each individual lesson. Responses were assigned numerical values according to two general criteria—accuracy, and latency. Accuracy of response was determined by a composite of three measurements: (1) the number of intelligible Spanish sentences (henceforth, *S*); (2) the number of intelligible words, defined as forms written with a space between them in traditional orthography (*W*); (3) the number of

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[5]) This battery of tests had been administered in the 9th grade. Scores on the Verbal Reasoning test were used for the purpose of control.

phones in sequence (*P*).[6]) Latency of response (*L*) was determined by measuring the amount of tape between the last audible sound of the situational stimulus and the first audible Spanish response of the subject (at a tape speed of $7\frac{1}{2}$ "/sec.). Hesitation forms, such as *uh* and *um*, were not counted as responses. Table I gives the raw scores where the columns represent the levels of measurement, and the rows refer to the scores of the individual subjects of the respective groups. In the table *L* is the mean of the four responses of each subject.

TABLE I

Group A					*Group B*			
P	*W*	*S*	*L*		*P*	*W*	*S*	*L*
52	16	4	8.70		51	16	4	3.50
53	16	4	17.50		47	16	4	5.50
46	13	4	12.25		55	16	4	12.50
49	16	4	11.25		53	16	4	5.00
40	12	2	9.50		55	16	4	8.75
45	14	1	8.75		53	16	4	4.50
26	9	2	16.00		52	16	4	4.25
25	9	1	17.00		49	13	3	11.25
52	15	4	16.66		46	16	4	14.00
30	10	2	16.75		53	16	4	5.50
Total	418	130	28	134.36	514	157	39	74.75
Possible	550	160	40		550	160	40	

All the data tend to confirm the hypothesis that relating the language of pattern drills to communicative activity significantly enhances learning in terms of accepted goals. [7]) The difference (*d*) between the

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[6]) The reason for including three different levels of measurement is not obvious at first glance. In examining the data it was found that there were many responses which were non-sentences but contained intelligible words. Furthermore, the data also exhibited some responses which did not contain intelligible words but did have recognizable phones in the correct sequence (in some cases with extraneous phones in between). Although *P*, *W*, and *S* are correlated after a fashion, they are distinct measures and should be regarded as such.

[7]) See the above quoted statement of the NEA and MLA.

possible and actual scores of the two groups favor *Group B* by the following percentages: *Sd* = 27.50%; *Wd* = 7.88%; *Pd* = 17.45%. The *d* between the mean latencies of *Group A* and *B* = 5.961". When these measures were subjected to statistical significance tests, the following levels of significance were found for each: *Sd* = .02 (i.e., 2 times in 100 trials a difference as large as that found in the present experiment might result by mere chance); *Wd* = .10; *Pd* = .02; and *Ld* barely failed to be significant at .10. [8])

3. Discussion. There are several facts about this study which are immediately open to just criticism. The authors would like to discuss two possible criticisms. First, the techniques of presentation may seem somewhat artificial and removed from the reality of the classroom. This is largely true in that all of the communicative situations are feigned. Most of the stimuli requiring response are formulated in the native rather than target language. Nevertheless, in spite of the artificiality of the communicative activities, there is none that could not be made real within the walls of the FL classroom. Furthermore, if faked situations can create a percentage of difference as large as that indicated by the data, real communication is likely to prove still more effective. As regards the use of English stimuli, these could be eliminated after a few weeks of training. Translation, however (although proponents of audio-lingual techniques may dislike the word), appears to be somewhat vindicated as a means for establishing communicative import in the beginning stages of FL study.

A second criticism might be that the hypothesis of the experiment may seem to be obviously true, thus rendering its formal proof trivial. The rationale for demonstrating what may already be obvious to a great many people is that it is apparently *not* obvious to a good many others. It is also often the others who are involved in constructing FL programs. A secondary, but no less important reason for dealing with what might otherwise seem trivial is to test the applicability of an experimental procedure. Numerous investigators have commented on the indeterminable relevance of numerous psychological studies

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[8]) The reason that the measure of latency failed to reach significance is probably due to the fact that no value was assigned when there was no response. The mean difference, however, was in the direction predicted favoring *Group B* by a margin of about 40%.

of language to FL teaching.[9]) Thus, if the present experiment offers procedures which might be employed to test other questions, then a particularly elusive and singularly significant goal has in part been obtained.

The present experimental data point in the direction of a revision of the theory of language acquisition advanced by Brooks and Morton as regards the pattern drill. The data indicate that the separation of 'manipulative skill' from 'expressive use' in the FL classroom is, at best, highly undesirable. It may, in fact, be impossible. Even in the *very first stages* of FL learning (since none of the subjects had previously studied Spanish) an awareness of 'expressive use' improves 'manipulative skill' by rather convincing percentages. *Group B*, which was made aware of communicative import and led into communicative activity, not only responded about 40% faster, but also scored 17% higher at the level of phonology (which is most assuredly regarded as a manipulative skill).

The data lend support to the following methodological suggestions. In the area of FL program construction it would seem desirable to reconsider the relative emphasis placed on meaningfulness and structural grading. It would appear that the teaching of language structures cannot be profitably separated from communicative activity. Pattern drills should be planned in such a way that the student is deliberately made aware of communicative import.[10]) This suggestion can partly be carried out by the writers of FL programs, but it can only be fully realized by the individual teacher in the classroom.

4. Summary. It had been asserted that the teaching of structural manipulation (i.e., internalizing grammar) is essentially different and should be accomplished apart from the teaching of the use of lan-

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9) For a discussion of some of the problems involved, see John B. Carroll, "Research on Teaching Foreign Languages," in *Handbook of Research on Teaching*, ed. N.L. Gage (New York, 1963), pp. 1060–1100. Also, see Jean Berko, and Roger Brown, "Psycholinguistic Research Methods," in *Handbook of Research Methods in Child Development*, ed. P. Mussen (New York, 1960), pp. 515–557.

10) The first author of the present article has recently completed a related study showing that the effect of meaningful sequence (i.e., the normal ordering of sentences in a communicative event) significantly enhances the learning of a set of Spanish sentences. It is hypothesized that extracting pattern drills from previously learned meaningfully sequential dialogs or stories will be an effective means of partly establishing communicative import.

guage in communication. Such a separation is shown to be highly undesirable (if not altogether impossible). The data of the present experiment support the hypothesis that the effectiveness of a given pattern drill is significantly increased by relating the language of that drill to communicative activity in the teaching/learning process. It is concluded that from the *very first stages* of FL study meaningful communicative activity should be a, if not *the*, central focal point of pattern drill.

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